

### **THE OFFICE ACTION**

In the Office Action issued September 19, 2006, the Examiner rejected claims 1-5, 8-11, 16-23, 25, 26, 28-41, 44 and 46 under 35 U.S.C. 103(a) as being unpatentable over WO 2004/032576 to Boerner, et al. ("Boerner") in view of U.S. Patent 6,771,019 to Wu, et al ("Wu"). Claims 6, 7 and 48 were rejected under 35 U.S.C. 103(a) as being obvious over Boerner and Wu and further in view of U.S. Patent 6,469,435 to Seibold, et al. ("Seibold"), and claims 12-14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Boerner and Wu and further in view of U.S. Patent Application Publication 2002/0122895 to Cheong, et al ("Cheong"). The Examiner rejected claim 24 under 35 U.S.C. 103(a) as being unpatentable over Boerner and Wu and further in view of WO 99/16847 to Burns, et al ("Burns"). Claim 27 was rejected under 35 U.S.C. 103(a) as being unpatentable over Boerner and Wu and further in view of U.S. Patent 5,909,081 to Eida, et al. ("Eida") and claims 52 and 53 were rejected under 35 U.S.C. 103(a) as being unpatentable over Boerner and Wu and further in view of U.S. Patent 6,608,439 to Sokolik, et al ("Sokolik"). Claims 15, 42, 43, 45, 47, 50 and 51 were objected to by the Examiner as being dependent upon a rejected base claim.

### **REMARKS / ARGUMENTS**

#### **A. Allowable Subject Matter**

Applicant respectfully acknowledges and appreciates the indication by the Examiner that Claims 15, 42, 43, 45, 47, 50 and 51 contain allowable subject matter.

#### **B. Claim Rejections Under U.S.C. § 103**

The Examiner rejected Claims 1-5, 8-11, 16-23, 25, 26, 28-41, 44 and 46 under 35 U.S.C. § 103(a) as being unpatentable over Boerner in view of Wu.

With respect to independent Claim 1, the Examiner asserts that Boerner discloses (Fig. 1; page 5, lines 1-20) a pixel sub-structure of a colored electroluminescent display comprising at least two sub-pixels, each comprising a blue light emitting electroluminescent phosphor 3 and at least one photoluminescent phosphor layer 7 associated with one of the blue sub-pixels such that the blue light emitted by each respective one of the sub-pixels is substantially absorbed by the

associated photoluminescent phosphor layer, thereby causing the phosphor layer to emit colored light other than the blue light. The Examiner asserts that the recitation of "for a thick film dielectric electroluminescent display" occurs in the preamble, which is generally not accorded any patentable weight if it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness.

The Examiner acknowledges that Boerner does not disclose that the blue EL phosphor in Boerner is an inorganic phosphor.

The Examiner asserts, however, that Wu discloses an inorganic phosphor and it would have been obvious to one of ordinary skill in the art to use the inorganic electroluminescent phosphor of Wu for the blue phosphor in the first layer of Boerner.

Applicants respectfully disagree with the Examiner. There is no motivation to combine the teachings of Boerner with Wu since, despite the Examiner's assertions to the contrary, they are directed to different and non-compatible subject matter.

Boerner is directed to organic electroluminescent devices (OLEDs). The Examiner is incorrect in his statement that Boerner discloses a "blue light emitting electroluminescent phosphor 3". Rather, Boerner discloses a semiconducting organic material 3. The nature of this semiconducting layer is described on page 1 of Boerner.

As the Examiner will appreciate, the electrical and optical properties of such organic electroluminescent devices having semiconducting organic material (see page 1, lines 9-22 and Figure 1, electroluminescent layer 3) sandwiched between two electrodes (see Figure 1, electrodes 2 and 4) are quite different than those of AC electroluminescent devices with inorganic phosphors, such as described in Wu. The inorganic phosphors of Wu do not function in the same manner as the organic materials described in Boerner. That is, the semiconducting organic material of Boerner emits blue radiation upon the application of a voltage wherein a positive and negative charge meet in the center layers (see page 1 of Boerner). Thus, one of ordinary skill in the art of organic electroluminescent device technology would not look to AC electroluminescent displays to replace the organic semiconducting electroluminescent layer of an OLED with the blue inorganic phosphor layer of an AC electroluminescent display of Wu.

Therefore, in view of the above, Claim 1 is not rendered obvious in view of the applied teachings of Boerner and Wu. Claims 2-5, 8-11, 16-23, 25, 26, 28-30, 40, 41, 44 and 46 depend or ultimately depend from Claim 1. It is respectfully submitted that these dependent claims are not rendered obvious in view of the applied teachings of Boerner and Wu for at least the same reasons that Claim 1 is not rendered obvious.

With respect to independent Claim 31, the Examiner asserts that Boerner and Wu disclose all the limitations of Claim 1 and additionally asserts that Boerner discloses each pixel comprising a thick dielectric layer 5 (Figure 1) associated with pixel substructure.

Applicant respectfully disagrees with the Examiner.

Boerner does not teach or suggest a thick film dielectric electroluminescent display. As discussed above, Boerner is directed to organic electroluminescent devices (OLEDs). With respect to the Examiner's assertion that Boerner teaches a thick dielectric layer 5 (Figure 1), it is described at page 5, lines 21-22, that reference numeral 5 represents a stack of individual transparent dielectric layers not a thick dielectric layer. Consequently, Boerner does not teach or suggest, either singly or in combination with Wu, the invention as claimed in Claim 31.

Therefore, in view of the above, Claim 31 is not rendered obvious in view of the applied teachings of Boerner and Wu. Claims 32-39 depend or ultimately depend from Claim 31. It is respectfully submitted that these dependent claims are not rendered obvious in view of the applied teachings of Boerner and Wu for at least the same reasons that Claim 31 is not rendered obvious.

The Examiner rejected Claims 6, 7 and 48 under 35 U.S.C. § 103(a) as being unpatentable over Boerner and Wu and further in view of Siebold.

The Examiner acknowledges that Boerner and Wu do not disclose a reflecting layer. The Examiner asserts, however, that Siebold discloses a reflecting layer as claimed. Claims 6, 7 and 48 depend or ultimately depend from Claim 1. Even assuming the propriety of combining Siebold with Boerner and Wu, it is respectfully submitted that these dependent claims are not rendered obvious in view of the applied teachings of Boerner and Wu for at least the same reasons discussed above with respect to Claim 1. Thus, the further teaching of a reflecting layer by Siebold does not cure this deficiency and does not render the claims obvious.

Similar arguments are made with respect to Cheong (U.S. Patent application Publication No. 2002/0122895), Burns (WO 99/16847), Eida (U.S. Patent No. 5,909,081), Sokolik (U.S. Patent No. 6,608,439) as the Examiner seems to find one claimed feature in these documents which is not taught or suggested with the claimed sub-pixel substructure. For the reasons discussed above with respect to Boerner and Wu, none of these references, even if appropriately combinable with Boerner and Wu, cures the deficiencies of this combination or teaches or suggests the subject matter of Claim 1 or any claim dependent therefrom.

### **CONCLUSION**

Applicant respectfully requests reconsideration of the application in light of the above comments. Applicant respectfully submits that all pending claims recite patentable subject matter. If there are any issues remaining, the Examiner is encouraged to contact the undersigned in an attempt to resolve any issues. If any fee or extension is due in conjunction with the filing of this amendment, Applicant authorizes deduction of that fee from deposit account 06-0308.

Respectfully submitted,

FAY, SHARPE, FAGAN,  
MINNICH & McKEE, LLP

Date

Dec 5, 2006

  
\_\_\_\_\_  
Joseph E. Waters, Reg. No. 50,427  
1100 Superior Avenue  
Seventh Floor  
Cleveland, Ohio 44114-2579  
(216) 861-5582